OIPE JC67
AUG 0 5 2004
PATENT & TRADEMARK OFFICE

FIG. 1

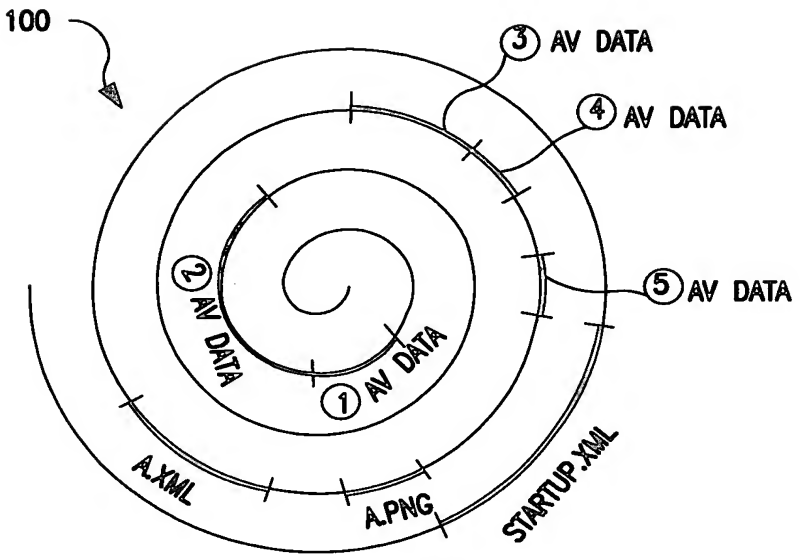


FIG. 2

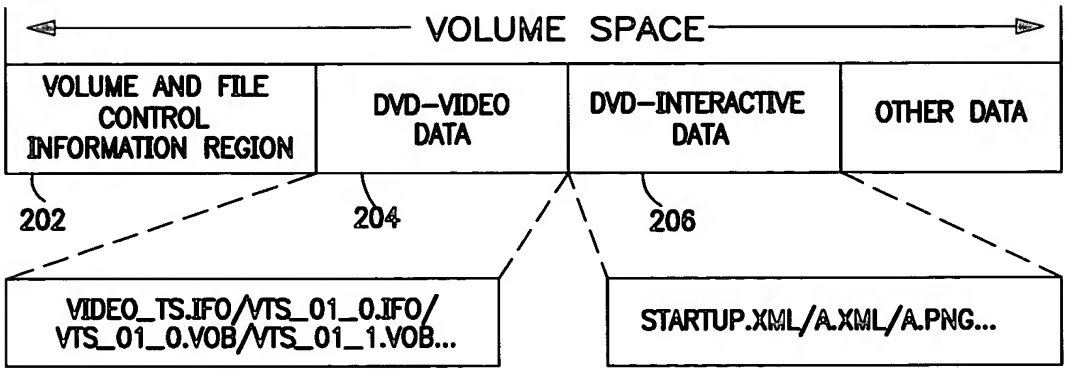


FIG. 3

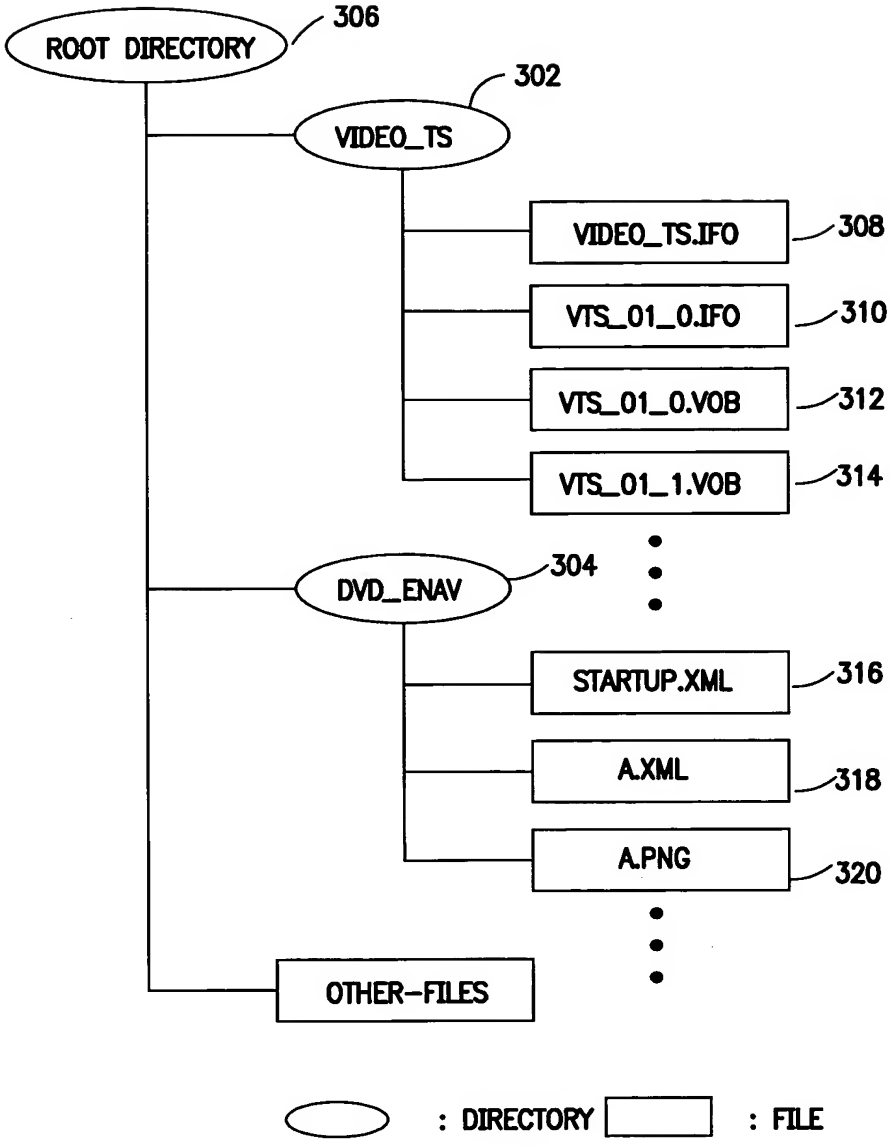

ROOT DIRECTORY
306
VIDEO_TS
302
VIDEO_TS.IFO
308
VTS_01_0.IFO
310
VTS_01_0.VOB
312
VTS_01_1.VOB
314
DVD_ENAV
304
STARTUP.XML
316
A.XML
318
A.PNG
320
OTHER-FILES
: DIRECTORY
: FILE

FIG. 4

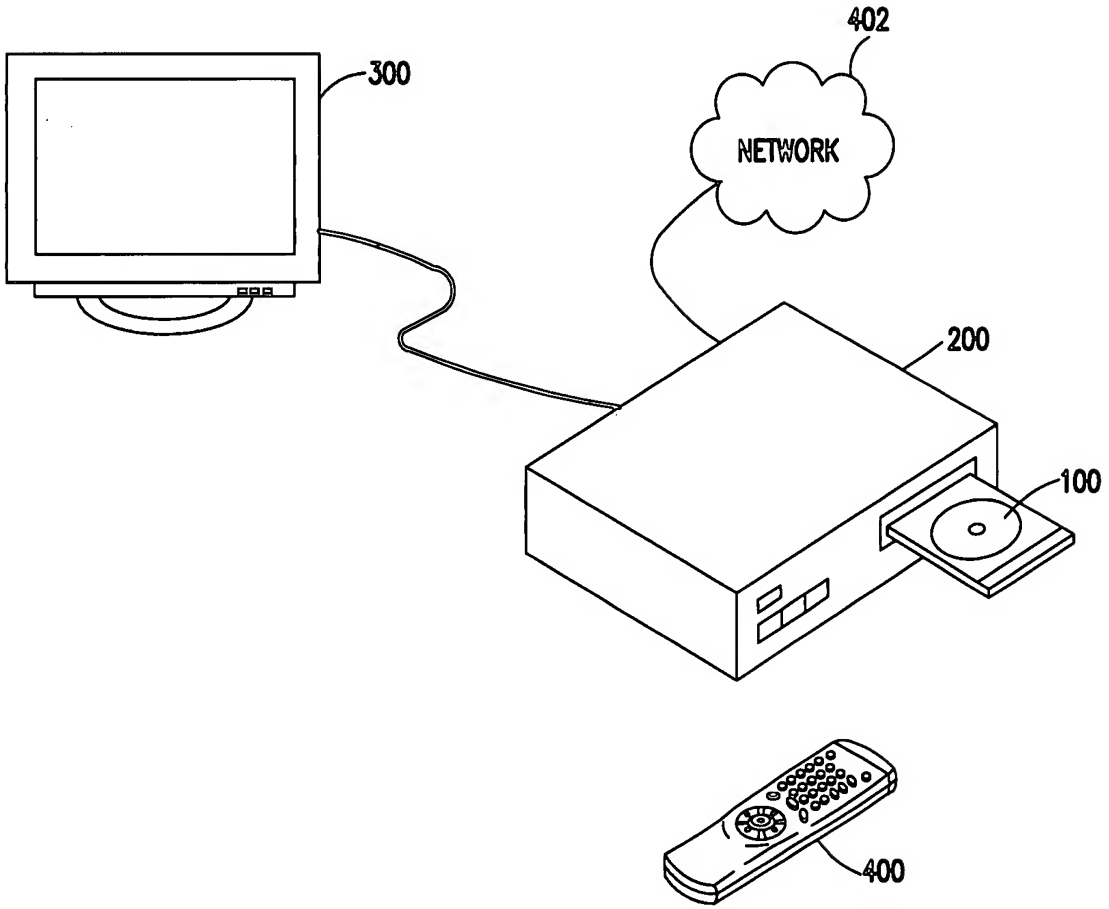


FIG. 5

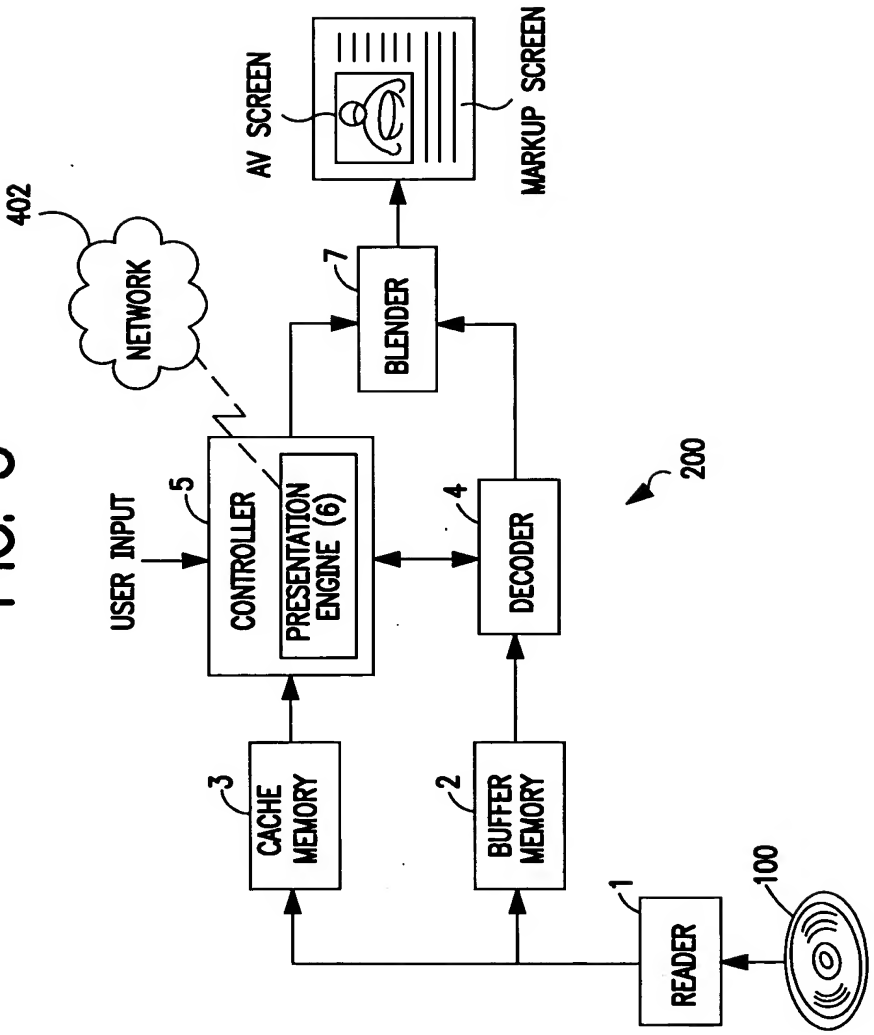

100
READER
1
CACHE MEMORY
3
BUFFER MEMORY
2
CONTROLLER
PRESENTATION ENGINE (6)
5
DECODER
4
BLENDER
7
NETWORK
402
AV SCREEN
MARKUP SCREEN
USER INPUT
200

FIG. 6

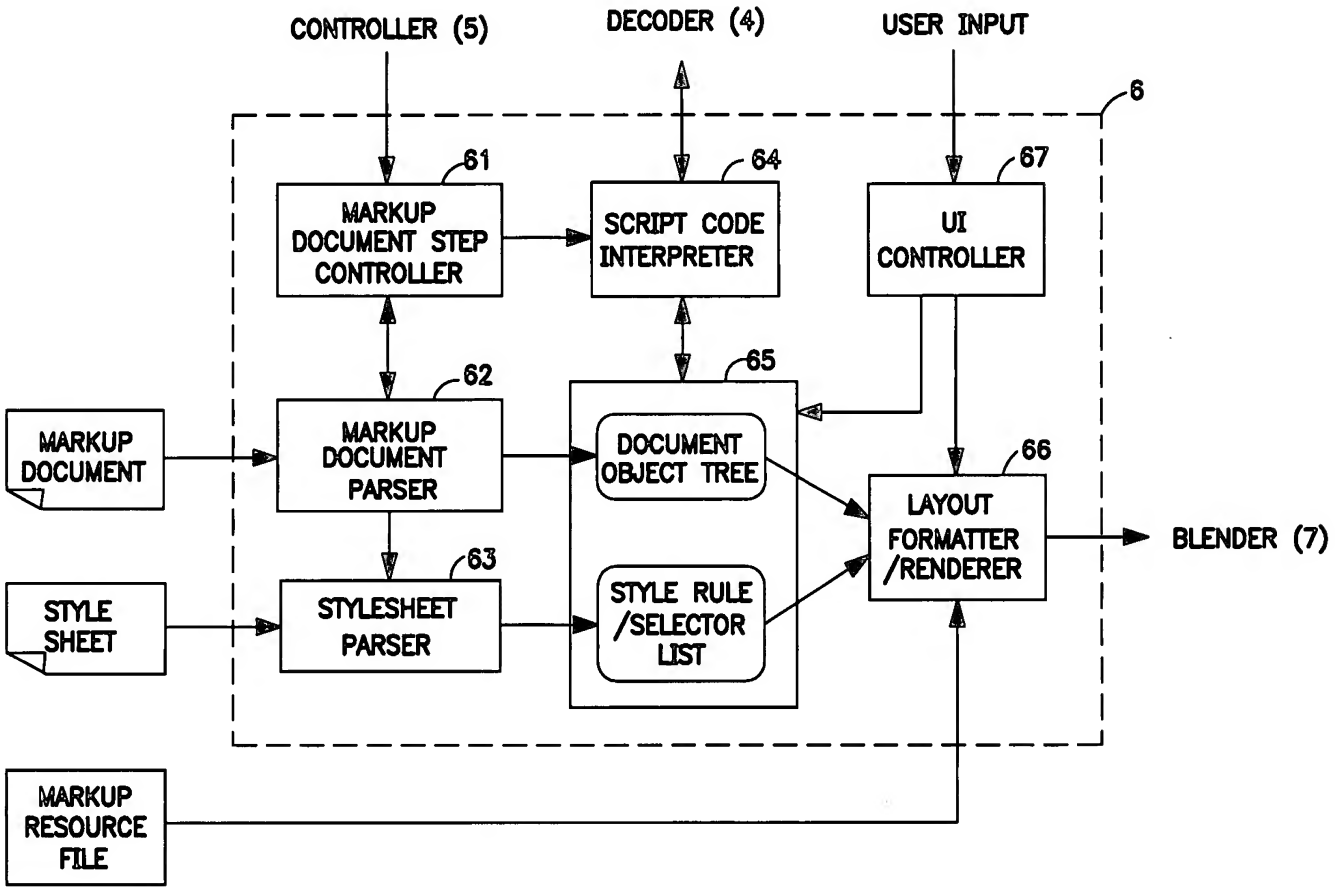

CONTROLLER (5)
DECODER (4)
USER INPUT
6
61
64
67
MARKUP DOCUMENT STEP CONTROLLER
SCRIPT CODE INTERPRETER
UI CONTROLLER
65
62
MARKUP DOCUMENT
MARKUP DOCUMENT PARSER
DOCUMENT OBJECT TREE
66
LAYOUT FORMATTER /RENDERER
BLENDER (7)
63
STYLE SHEET
STYLESHEET PARSER
STYLE RULE /SELECTOR LIST
MARKUP RESOURCE FILE

FIG. 7

```
<?xml version="1.0"?>
<!-This is first comment->
<!DOCTYPE html PUBLIC "-//DVD//DTD XHTML DVD-HTML 1.0//EN"
"http://www.dvdforum.org/enav/dtd/dvdhtml-1.0.dtd">
<html>
<head>
<title>DOM-core sample</title>
<script type="text/ecmascript">
alert("script code is in head tag")
function load_handler()
{
      alert("Hello, DVD-HTML")
      var strMsg="";
      strMsg+=document.documentElement.nodeName+"/n";
      strMsg+=document.documentElement.attributes.item(0).nodeName+"\n";
      var root=document.documentElement;
      for(var i=0;i<root.childNodes.length;i++)
      strMsg+="\t"+root.childNodes.item(i)nodeName+"\n"
      strMsg+=document.nodeName;
      alert(strMsg)
      alert(root.childNodes.item(0).childNodes.length);

alert(root.childNodes.item(0).childNodes.item(1).hasChildNodes());
}
function unload_handler()
{
      alert("good bye world")
}
</script>
</head>
<body onload="load_handler();"onunload="unload_handler();">
<script type="text/ecmacript">
alert( " before body text " )
</script>
<p>bodytext</p>
<script type="text/ecmascript">
<![CDATA[
alert("after body text")
]]>
</script>
</body>
</html>
```

FIG. 8

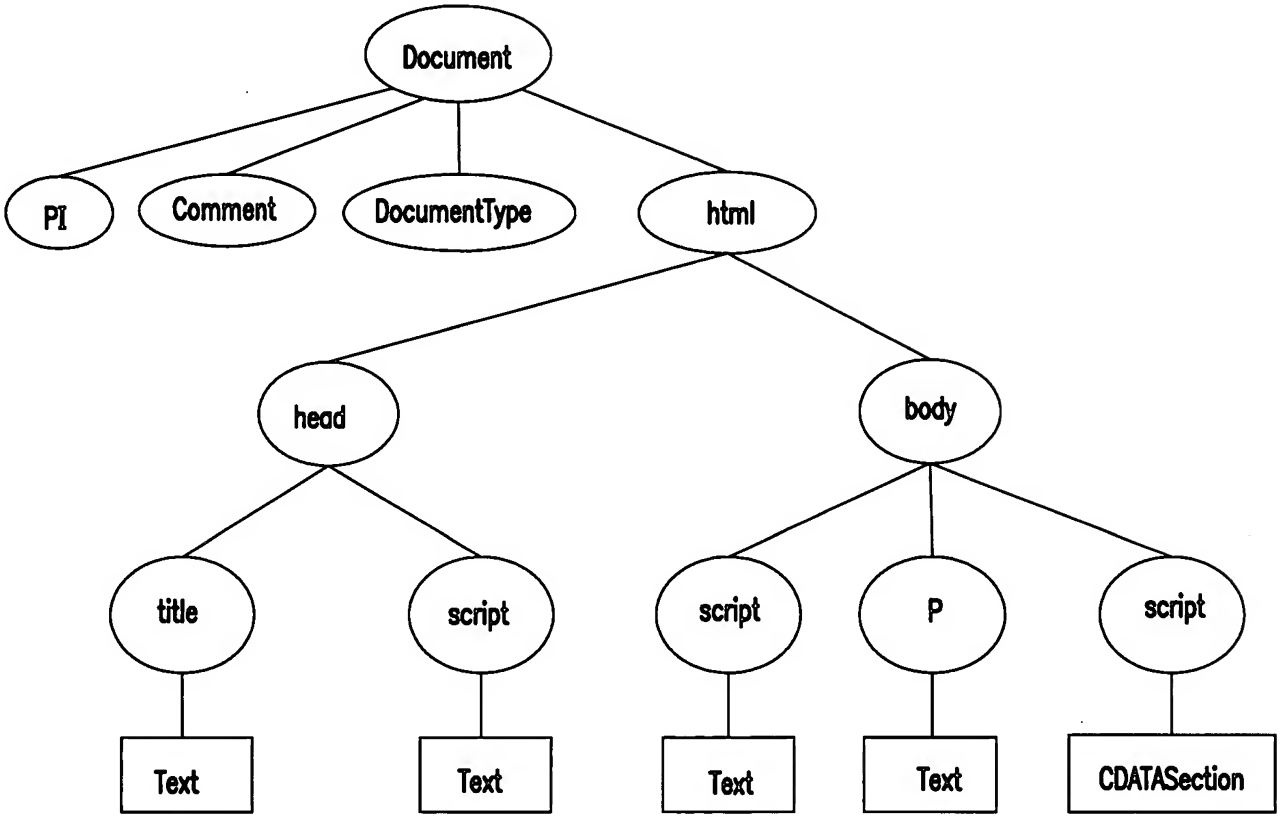

Document
PI
Comment
DocumentType
html
head
body
title
script
script
P
script
Text
Text
Text
Text
CDATASection

FIG. 10

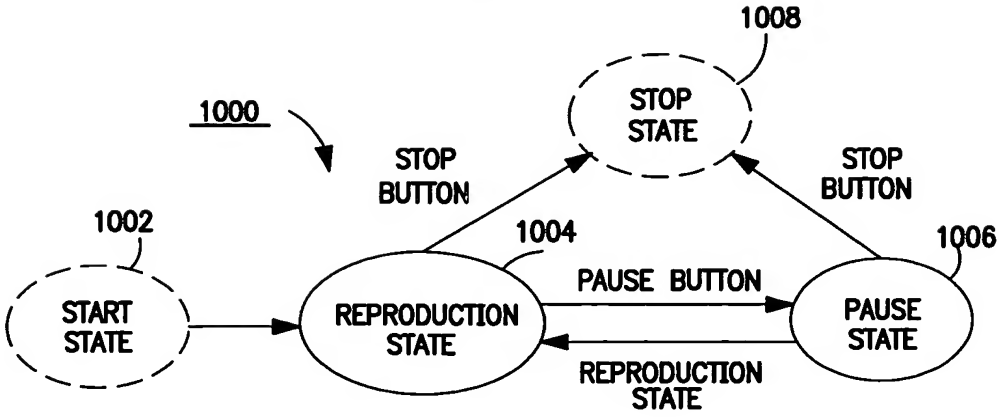

1008
STOP STATE
1000
STOP BUTTON
STOP BUTTON
1002
1004
1006
START STATE
REPRODUCTION STATE
PAUSE BUTTON
PAUSE STATE
REPRODUCTION STATE

FIG. 9

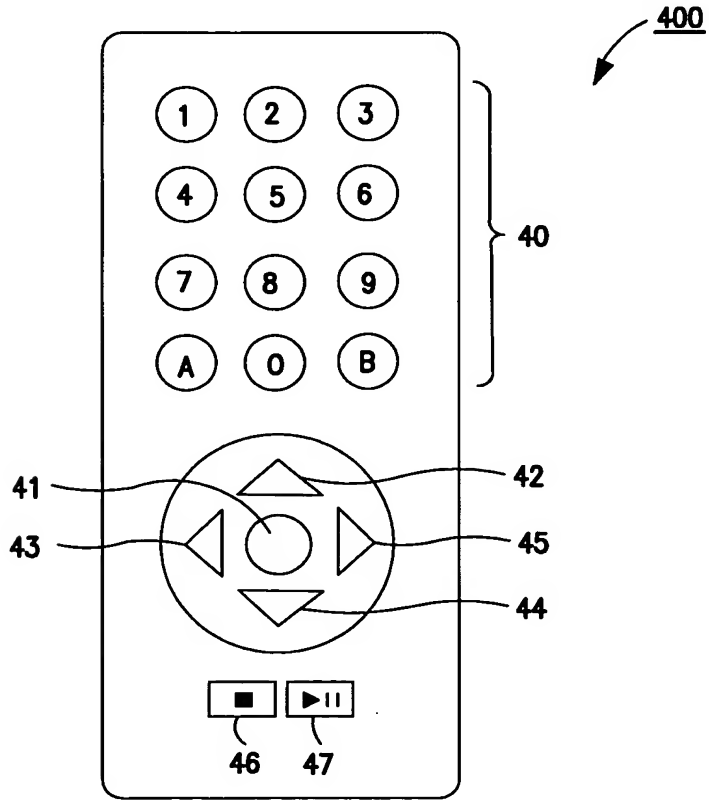

400
1
2
3
4
5
6
7
8
9
A
0
B
40
41
42
43
45
44
46
47

FIG. 11

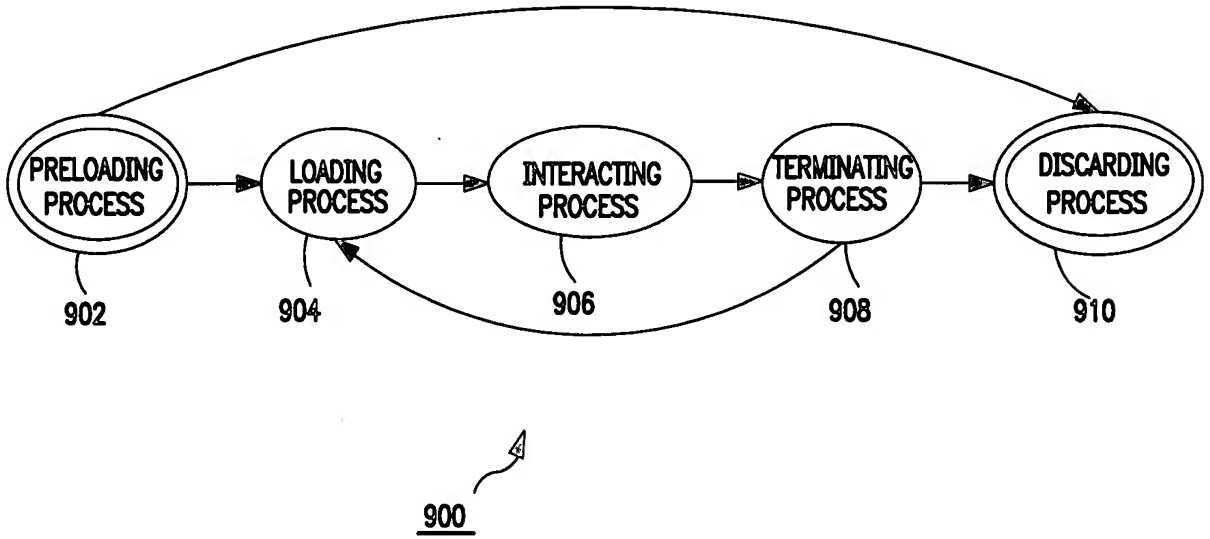

PRELOADING PROCESS
LOADING PROCESS
INTERACTING PROCESS
TERMINATING PROCESS
DISCARDING PROCESS
902
904
906
908
910
900

FIG. 12A

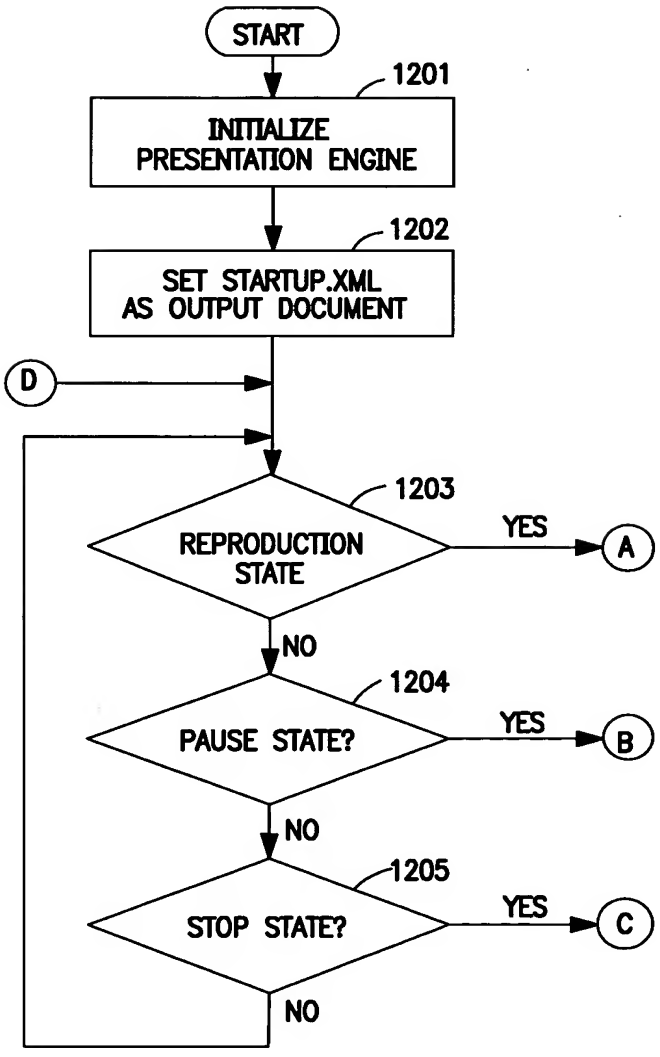

START
1201
INITIALIZE PRESENTATION ENGINE
1202
SET STARTUP.XML AS OUTPUT DOCUMENT
D
1203
REPRODUCTION STATE
YES
A
NO
1204
PAUSE STATE?
YES
B
NO
1205
STOP STATE?
YES
C
NO

FIG. 12B

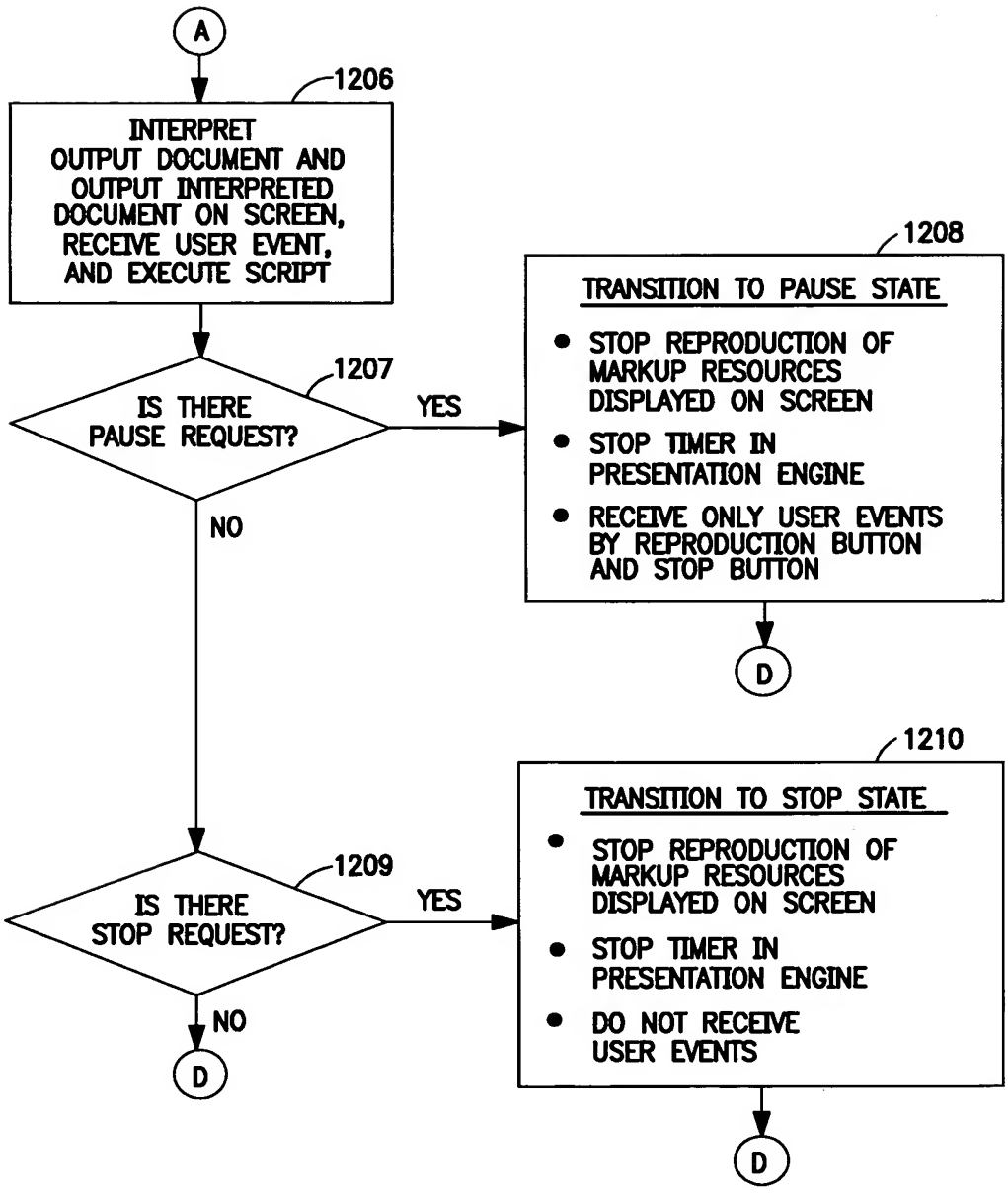

A
1206
INTERPRET OUTPUT DOCUMENT AND OUTPUT INTERPRETED DOCUMENT ON SCREEN, RECEIVE USER EVENT, AND EXECUTE SCRIPT
1207
IS THERE PAUSE REQUEST?
YES
NO
1208
TRANSITION TO PAUSE STATE
• STOP REPRODUCTION OF MARKUP RESOURCES DISPLAYED ON SCREEN
• STOP TIMER IN PRESENTATION ENGINE
• RECEIVE ONLY USER EVENTS BY REPRODUCTION BUTTON AND STOP BUTTON
D
1209
IS THERE STOP REQUEST?
YES
NO
1210
TRANSITION TO STOP STATE
• STOP REPRODUCTION OF MARKUP RESOURCES DISPLAYED ON SCREEN
• STOP TIMER IN PRESENTATION ENGINE
• DO NOT RECEIVE USER EVENTS
D
D

FIG. 12C

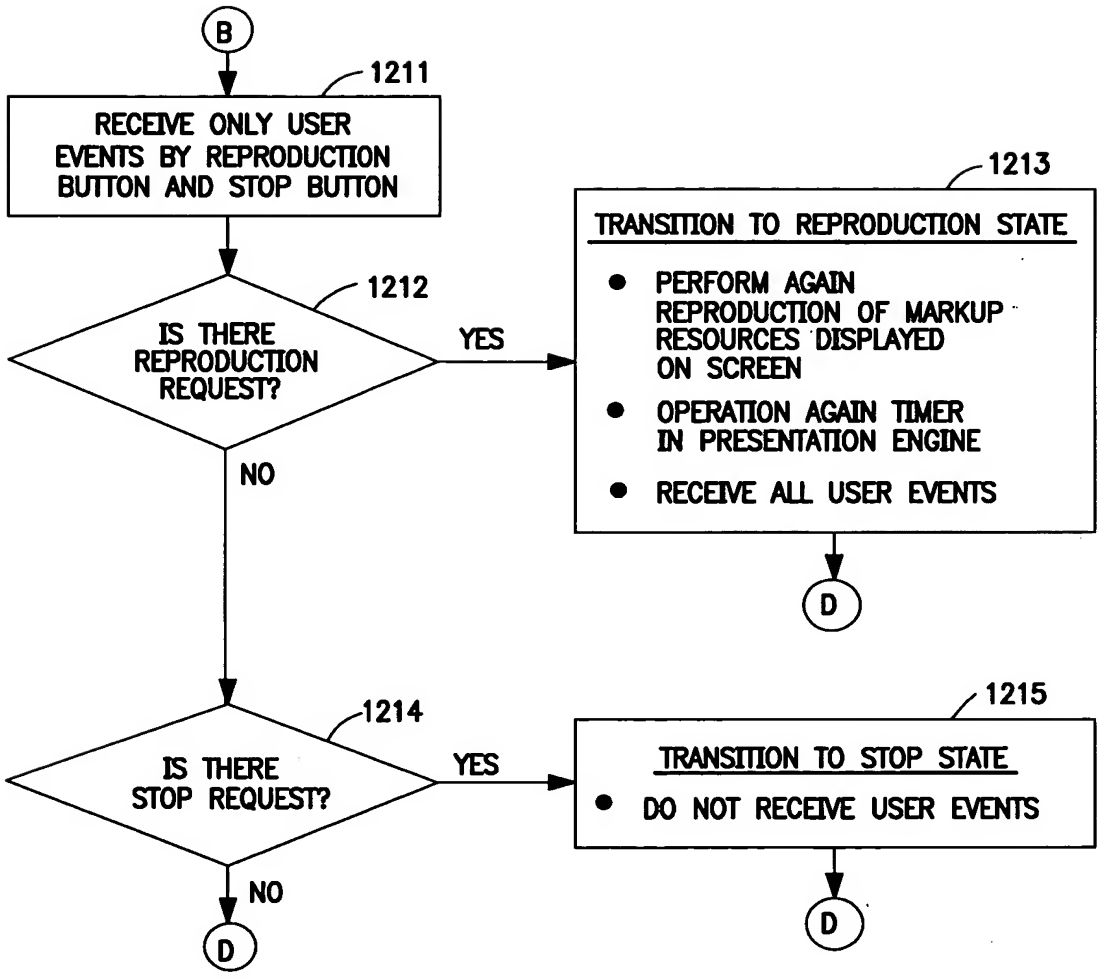

B
1211
RECEIVE ONLY USER EVENTS BY REPRODUCTION BUTTON AND STOP BUTTON
1212
IS THERE REPRODUCTION REQUEST?
YES
NO
1213
TRANSITION TO REPRODUCTION STATE
PERFORM AGAIN REPRODUCTION OF MARKUP RESOURCES DISPLAYED ON SCREEN
OPERATION AGAIN TIMER IN PRESENTATION ENGINE
RECEIVE ALL USER EVENTS
D
1214
IS THERE STOP REQUEST?
YES
NO
1215
TRANSITION TO STOP STATE
DO NOT RECEIVE USER EVENTS
D
D

FIG. 12D

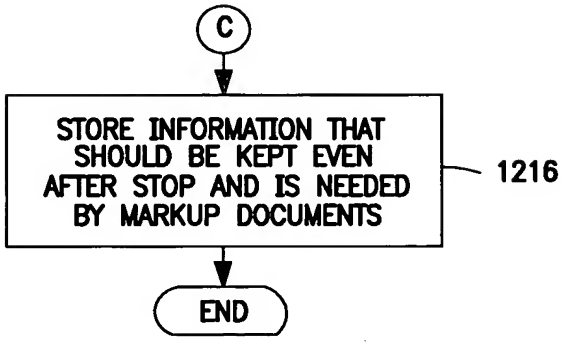
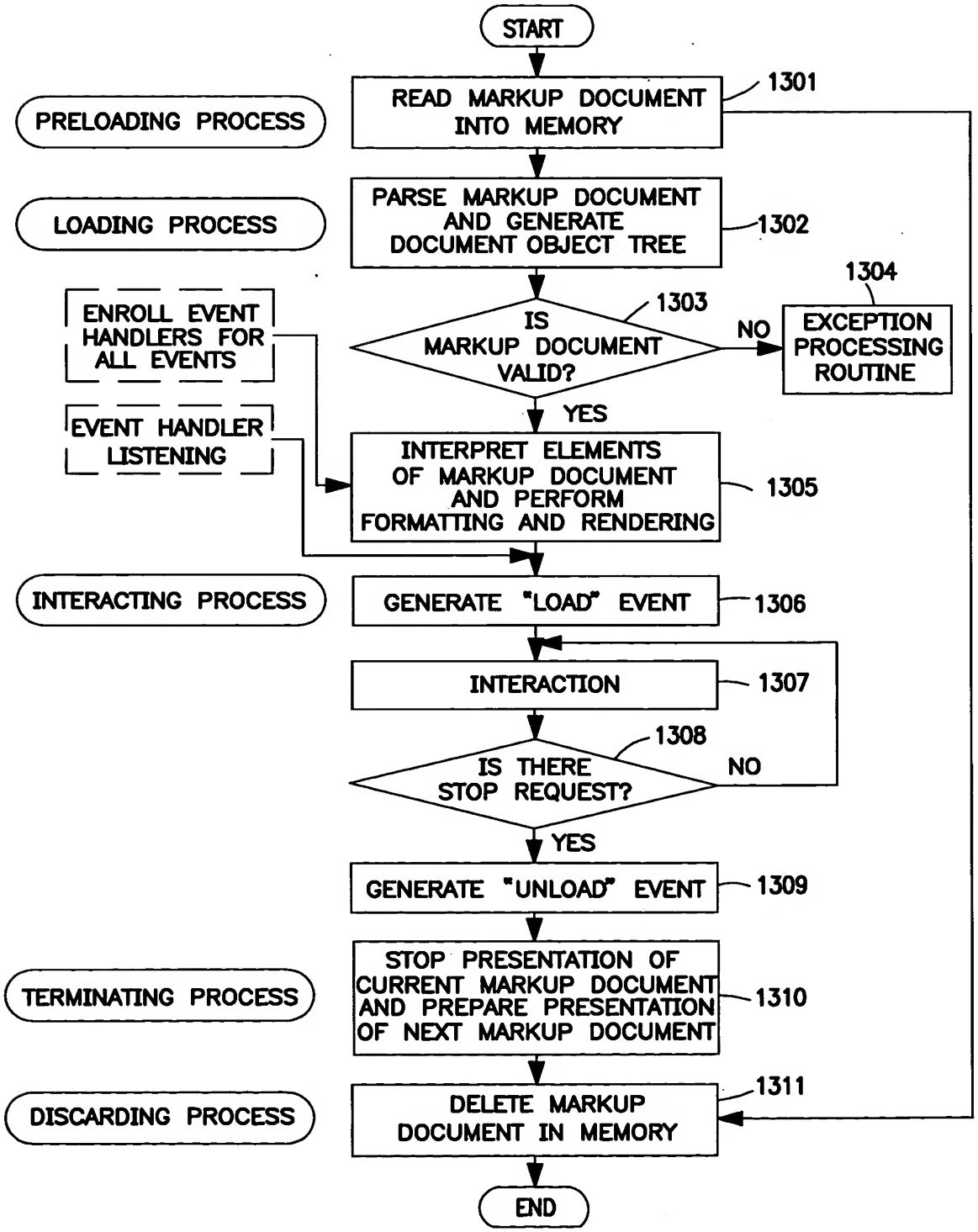

C
STORE INFORMATION THAT SHOULD BE KEPT EVEN AFTER STOP AND IS NEEDED BY MARKUP DOCUMENTS
1216
END

FIG. 13


START
PRELOADING PROCESS
READ MARKUP DOCUMENT INTO MEMORY
1301
LOADING PROCESS
PARSE MARKUP DOCUMENT AND GENERATE DOCUMENT OBJECT TREE
1302
1304
ENROLL EVENT HANDLERS FOR ALL EVENTS
IS MARKUP DOCUMENT VALID?
1303
NO
EXCEPTION PROCESSING ROUTINE
YES
EVENT HANDLER LISTENING
INTERPRET ELEMENTS OF MARKUP DOCUMENT AND PERFORM FORMATTING AND RENDERING
1305
INTERACTING PROCESS
GENERATE "LOAD" EVENT
1306
INTERACTION
1307
IS THERE STOP REQUEST?
1308
NO
YES
GENERATE "UNLOAD" EVENT
1309
TERMINATING PROCESS
STOP PRESENTATION OF CURRENT MARKUP DOCUMENT AND PREPARE PRESENTATION OF NEXT MARKUP DOCUMENT
1310
DISCARDING PROCESS
DELETE MARKUP DOCUMENT IN MEMORY
1311
END